[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1250; Project Identifier AD-2022-00763-T]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Model Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes. This proposed AD was prompted by an evaluation by the design approval holder (DAH) indicating that the skin lap splice at certain stringers is subject to widespread fatigue damage (WFD). This proposed AD would require an inspection for any repair at certain skin lap splices and depending on the configuration, repetitive inspections for buckling, wrinkling, bulging at affected skin lap splices and repair, repetitive inspections for cracking at affected locations common to fuselage skin on the left and right sides and repair, and alternative inspections and on-condition actions. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet myboeingfleet.com. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at regulations.gov by searching for and locating Docket No. FAA-2022-1250.

Examining the AD Docket

You may examine the AD docket at regulations.gov by searching for and locating Docket No. FAA-2022-1250; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Willard Ashforth, Senior Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone: 206–231–3520; email: bill.ashforth@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include

"Docket No. FAA-2022-1250; Project Identifier AD-2022-00763-T" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Willard Ashforth, Senior Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone: 206–231–3520; email: bill.ashforth@faa.gov. A. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

Fatigue damage can occur locally, in small areas or structural design details, or globally, in widespread areas. Multiple-site damage is widespread damage that occurs in a large structural element such as a single rivet line of a lap splice joining two large skin panels. Widespread damage can also occur in multiple elements such as adjacent frames or stringers. Multiple-site damage and multiple-element damage cracks are typically too small initially to be reliably detected with normal inspection methods. Without intervention, these cracks will grow, and eventually compromise the structural integrity of the airplane. This condition is known as WFD. It is associated with general degradation of large areas of structure with similar structural details and stress levels. As an airplane ages, WFD will likely occur, and will certainly occur if the airplane is operated long enough without any intervention.

An FAA final rule ("Aging Airplane Program: Widespread Fatigue Damage;" 75 FR 69746, November 15, 2010) became effective on January 14, 2011, and amended 14 CFR parts 25, 26, 121, and 129 (commonly known as the WFD rule). The WFD rule requires certain actions to prevent structural failure due to WFD throughout the operational life of certain existing transport category airplanes and all of these airplanes that will be certificated in the future. Design approval holders (DAHs) of existing and future airplanes subject to the WFD rule are required to establish a limit of validity (LOV) of the engineering data that support the structural maintenance program. Operators affected by the WFD rule may not fly an airplane beyond its LOV, unless an extended LOV is approved.

The WFD rule does not require identifying and developing maintenance actions if the DAHs can show that such actions are not necessary to prevent WFD before the airplane reaches the LOV. Many LOVs, however, do depend on accomplishment of future maintenance actions. As stated in the WFD rule, any maintenance actions

necessary to reach the LOV will be mandated by airworthiness directives through separate rulemaking actions.

In the context of WFD, this action is necessary to enable DAHs to propose LOVs that allow operators the longest operational lives for their airplanes, and still ensure that WFD will not occur. This approach allows for an implementation strategy that provides flexibility to DAHs in determining the timing of service information development (with FAA approval), while providing operators with certainty regarding the LOV applicable to their airplanes.

The FAA has received reports indicating fuselage skin cracking found between stations (STA) 767 and STA 787, just below S-14R fuselage skin lap splice, where a lower skin panel buckle intersected the upper skin of the lap splice. Fuselage skin cracking was also found between just below S-14R between STA 747 and STA 767. Skin buckles, wrinkles, or bulges may be precursors to cracks at the potential affected fuselage longitudinal lap splice areas on all 737NG airplanes. Fatigue cracks initiated at multiple locations where linear anomalies were found in the clad layer of the lower skin. Areas of loose paint, discoloration, loose fasteners, lap joint separation, or disturbed sealant can be indicative of areas where skin buckles, wrinkles, or bulges have occurred. Such areas should be carefully examined for skin deformation; however, skin buckles, wrinkles, or bulges may also exist without other signs of skin distress. This condition was the result of incorrect procedures used to install lap splice during airplane production. This condition, if not addressed, could result in any small crack, any buckle, any wrinkle or any bulge in the fuselage skin lap splice may go undetected. Continued operation of the airplane with any undetected small crack, buckle, wrinkle or bulge in the fuselage skin lap splice could cause a large crack in the fuselage skin, which may result in the inability of a principal structural element to sustain limit load, which could result in reduce structural integrity of the airplane and lead to a decompression event.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Special Attention Requirements Bulletin 737-53-1399 RB, dated May 20, 2022. This service information specifies procedures for a general visual inspection for any repair, any buckle, any wrinkle, any bulge, and any cracking at skin lap splice at stringers S-4 (Boeing Converted Freighter only), S-14 and S-24 (737-600 only). This service information also describes procedures, depending on the configuration, for repetitive detailed inspections for buckling, wrinkling, bulging at unrepaired areas of affected lap splices and repair; repetitive detailed, high frequency eddy current (HFEC), and ultrasonic (UT) inspections for cracking at affected locations common to fuselage skin on the left and right sides and repair; and alternative inspections and on-condition actions.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in the service information already described except for any differences identified as exceptions in the regulatory text of this proposed AD. For information on the procedures and compliance times, see this service information at regulations.gov by searching for and locating Docket No. FAA-2022-1250.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 2,462 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	Up to 34 hours X $85 per hour = Up to $2,890 per inspection cycle	$0	$2,890 per inspection cycle	Up to $7,115,180 per inspection cycle

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs or for the alternative inspections and on-condition actions specified in this proposed AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

The Boeing Company: Docket No. FAA-2022-1250; Project Identifier AD-2022-00763-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the skin lap splice at stringers S-4, S-14, and S-24 are subject to widespread fatigue damage (WFD). The FAA is issuing this AD to address cracks, skin buckles, wrinkles, and bulges at fuselage longitudinal lap splice areas at S-4, S-14 and S-24. This condition, if not addressed, could result in a large crack in the fuselage skin, which may result in the inability of a principal structural element to sustain limit load, which could result in reduced structural integrity of the airplane and lead to a decompression event.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Special Attention Requirements Bulletin 737-53-1399 RB, dated May 20, 2022, do all applicable actions identified in, and in

accordance with, the Accomplishment Instructions of Boeing Special Attention Requirements Bulletin 737-53-1399 RB, dated May 20, 2022.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Special Attention Service Bulletin 737-53-1399 RB, dated May 20, 2022, which is referred to in Boeing Special Attention Requirements Bulletin 737-53-1399 RB, dated May 20, 2022.

(h) Exceptions to Service Information Specifications

(1) Where the Compliance Time columns of the tables in the "Compliance" paragraph of Boeing Special Attention Requirements Bulletin 737-53-1399 RB, dated May 20, 2022, use the phrase "the original issue date of Boeing Special Attention Requirements Bulletin 737-53-1399 RB," this AD requires using "the effective date of this AD."

(2) Where Boeing Special Attention Requirements Bulletin 737-53-1399 RB, dated May 20, 2022, specifies contacting Boeing for repair instructions or for alternative inspections: This AD requires doing the repair and doing the alternative inspections and applicable on-condition actions using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov/.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Related Information

(1) For more information about this AD, contact Willard Ashforth, Senior Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone: 206–231–3520; email: bill.ashforth@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet myboeingfleet.com. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on September 29, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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